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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/741,071	12/21/2000	Kazuo Ishii	Q62336	7426

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EXAMINER

BROOKE, MICHAEL S

ART UNIT

PAPER NUMBER

2853

DATE MAILED: 05/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/741,071

Applicant(s)

ISHII ET AL.

Examiner

Michael S. Brooke

Art Unit

2853 *MP*

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 April 2002.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 2, 4, 5, 7, 8 and 11-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 6, 9 and 10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Election/Restrictions***

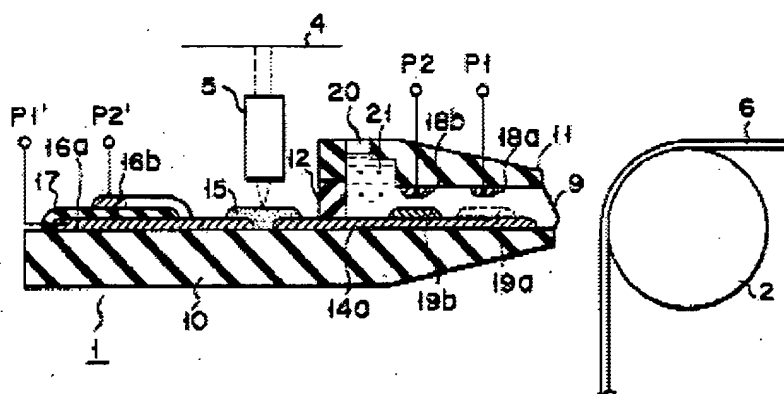
1. Claims 2, 4, 5, 7, 8 and 11-24 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 8.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamura et al. (4,794,463) in view of Higuchi et al. (5,539,440).



**FIG. 2**

Tamura et al. teaches (fig. 2, above) an ink jet print printing apparatus that uses an electrostatic field, generated between control electrodes (18a, 18b) and back electrode (2), to discharge an oily ink (21) onto a printing medium (6) on the basis of image data.

Tamura et al. teaches the claimed invention with the exception of fixing the image.

Higuchi et al. teaches an electrostatic printing apparatus which discharges an oily ink (col. 14:16) onto a printing medium. Higuchi et al. further teaches the use of a fan which is used to dry (fix) the printing medium after printing has taken place (col. 20: 17-19). It is well known in the ink jet art that drying the sheet after printing prevents smearing of the image.

It would have been obvious to one of ordinary skill in the ink jet art at the time the invention was made to have provided in Tamura et al. a fixing device in order to dry the printed image, so as to prevent smearing of the image, as taught by Higuchi et al.

4. Claims 3, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamura et al. (4,794,463) in view of Higuchi et al. (5,539,440), as applied to claims 1 and 6 above, and further in view of Carley (4,314,263).

Tamura et al., as modified, teaches the claimed invention with the exception of at least one of a malfunction detecting member and a malfunctioning cause eliminating member, temporarily stopping image formation or operating the malfunction cause eliminating member and the malfunction cause eliminating member being a unit which detects adhesion of foreign matter on the head.

Carley teaches (col. 5:56-68 and col. 6:1-3) a fluid jet printing apparatus having a cleaning unit (34) which prevents the nozzle tip (32) from being fouled by foreign matter. The cleaning means has a continuously operating means for detecting foreign matter at the tip, and for automatically activating the cleaning means when fluid flow is impaired. The cleaning may be performed by various methods, such as heat, a chemical solvent, or mechanical wiping.

It would have been obvious to one of ordinary skill in the ink jet art to have provided in Tamura et al., as modified, a nozzle cleaning unit, as taught by Carley for the purpose of preventing the nozzle from being fouled.

### ***Response to Arguments***

5. Applicant's arguments filed 04/16/02 have been fully considered but they are not persuasive.

6. In response to applicant's argument that Tamura et al. and Higuchi et al. are nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Tamura et al. teaches an ink jet printing apparatus using an oily ink. Higuchi et al. teaches an image forming apparatus which uses an oily ink for forming an image on a recording medium. Higuchi et al. further teaches that a fan is used for drying the ink on the recording medium. As both of these devices use an oily

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ink, the teachings of Higuchi et al., with regard to the drying of the ink, are seen to be relevant to Tamura et al.

Applicant's argument that Tamura et al. teaches away from the use of a fixing process is not persuasive. In support of this position, Applicant cites the statement that "since ink is caused to be attached directly to the recording sheet, neither developing nor fixing processes are necessary" (col. 1:10-14). However, Tamura et al. further teaches :

*"...which does not require complicated mechanisms for developing, fixing, and other steps as are necessary in the ordinary electrophotographic duplicator..."*  
(col. 23:35-42).

Given this teaching, it appears that the language of col. 1:10-14, is referring to the fact that ink jet printing eliminates the need for complicated fixing apparatuses, as are found in traditional electrophotographic devices. This does not preclude a simple fixing or drying device from being used with an ink jet head. Furthermore, the language "nor are fixing processes necessary," does not preclude the use of a fixing process. This language means is that a fixing process is not necessary for the apparatus to function. A fixing or drying device could be added if it improved the operation of the printer.

In support of this position, the Examiner has provided Smith (5,020,244) (col. 4:32-41), Takahashi et al. (5,502,464) (col. 20:45-47) and Richtsmeir et al. (col. 6:6-10). All of these references teach that it is well known in the ink jet art to use a fan to dry ink on a recording medium in an ink jet print head. Accordingly, one of ordinary skill in the inkjet art would have found it obvious to provide the printer of Tamura et al. with the

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drying apparatus of Higuchi et al, for drying the oily ink on the recording medium, in order to prevent smearing of the image.

### ***Conclusion***

**7. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael S. Brooke whose telephone number is 703-305-0262. The examiner can normally be reached on M-F 5:30-2:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 308-3126. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-3431 for regular communications and 703-308-3431 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4900.

Michael S. Brooke  
Examiner  
Art Unit 2853

*MSB*

MSB  
May 12, 2002



John Barlow  
Supervisory Patent Examiner  
Technology Center 2800